

# Summary Of The 2003 IUCN Red Listings For Family Syngnathidae

Amanda Vincent

Project Seahorse

[A.VINCENT@fisheries.ubc.ca](mailto:A.VINCENT@fisheries.ubc.ca)

This document was originally prepared by Project Seahorse for the CITES Secretariat for the Technical workshop on seahorses and other members of the family Syngnathidae (Cebu, Philippines), 27-29 May 2002), and has been revised by Project Seahorse for the CITES Secretariat for the International workshop on seahorse fishery management (Mazatlán, Mexico), 3-5 February 2004).

Project Seahorse serves as the formal IUCN Red Listing Authority for syngnathids, by invitation of the Species Survival Commission. In undertaking species assessments, Project Seahorse is able to draw on its extensive library of references on syngnathids. We hold copies of virtually all primary papers on seahorses, along with many documents from management literature and popular media. In addition, Project Seahorse acts as a hub for syngnathid researchers, coordinating a network of scientists globally, and has been able to draw on their knowledge in compiling life history and conservation tables for all seahorse species.

In 2001 Project Seahorse revised the Red Listings of Syngnathidae for inclusion in the 2002 Red List. In our revision, we realigned species assessments to reflect correct taxonomic designation, including the removal of many synonyms. Our adjustment of names, synonyms and distributions for all species was conducted in accordance with the only formal taxonomic revision of the entire genus<sup>1</sup>.

Having completed the taxonomic revision (with its many species adjustments), we undertook ten new species assessments, for *Hippocampus algiricus*, *H. angustus*, *H. barbouri*, *H. comes*, *H. fisheri*, *H. histrix*, *H. kelloggi*, *H. lichtensteinii*, *H. subelongatus* and *H. zebra*. Two of these assessments – *H. angustus* and *H. histrix* – represent changes to species that were ostensibly included on the 1996 IUCN Red List. In fact, however, the species designated by those names were revealed in the taxonomic revision to be quite different species: *H. subelongatus* and *H. barbouri* respectively. Rectifying these errors yielded four of the new assessments.

In 2002 Project Seahorse further revised the listings to bring all seahorse listing up to date, as well as add a new assessment for *H. denise*, a new species of pygmy seahorse<sup>2</sup>. This update increased the number of species now categorized as Data Deficient, and should serve as a call to action for biologists, fisheries managers and others with an interest in sustainable trade in marine resources.

Project Seahorse supports sound management decisions based on the best available science, and we caution against premature conclusions based on the new Red List. The reclassification of several species of seahorses from Vulnerable to Data Deficient is a reminder that conservation prospects cannot be evaluated without better information on how species are faring. Until our understanding improves, we run the risk of losing species about which we know little. At the same time, the threats to seahorse habitats are widely recognized, and the deteriorating state of coral reefs, mangroves, seagrass beds and other coastal ecosystems around the world should be cause for concern for all marine species on the Red List.

We are aware that Australian authorities are reassessing the conservation status of many marine fishes, including syngnathids. Project Seahorse expects to concur with Australian assessments of their endemic species, which will reflect new national conservation legislation for syngnathids (implemented

since the 1996 Red Listing). Project Seahorse did not, therefore, evaluate or re-evaluate Australian endemic species during its recent re-assessments; these comprise perhaps one-third of all currently recognised seahorse species. That decision notwithstanding, Project Seahorse did revise the assessments for *H. angustus* and *H. subelongatus* for the 2002 Red List, in order to rectify taxonomic confusion (see above). We are aware that the taxonomy used in the Australian revision will probably differ slightly from the one we use here, as a result of Rudie Kuiter's revision of their native species<sup>3</sup>. However, our understanding is that the assessments of *H. angustus* and *H. subelongatus* will not be affected. Project Seahorse will work with Australian authorities to undertake broader geographic assessments of species that are found in Australia and also elsewhere in the region.

The tables presented in this document summarize what is published in the 2003 IUCN Red List of Threatened Species<sup>4</sup> for syngnathids.

Project Seahorse is aware that the assessments for many of the other syngnathids originally listed in 1996 need to be reviewed. Since the ultimate goals of the Red List are to convey the urgency and scale of conservation problems to policy makers and the public, and to motivate the global community to try and prevent species extinctions, we especially need to ensure that critical species are listed. We intend to collaborate with experts on these species to ensure that syngnathids are one of the most represented taxa in the IUCN Red List.

For more information, we refer you to the following IUCN website: [www.redlist.org](http://www.redlist.org).

#### (Footnotes)

<sup>1</sup> Lourie, S.A., A.C.J. Vincent, and H.J. Hall. 1999. *Seahorses: an identification guide to the world's species and their conservation*. Project Seahorse, London, UK. 214 pp. [ISBN 0 9534693 0 1].

<sup>2</sup> Lourie, S.A. and J.E. Randall. 2003. A new pygmy seahorse, *Hippocampus denise* (Teleostei: Syngnathidae), from the Indo-Pacific. *Zoological Studies* 42(2): 284-291.

<sup>3</sup> Kuiter, R. 2001. Revision of the Australian seahorses of the genus *Hippocampus* (Syngnathioformes: Syngnathidae) with a description of nine new species. *Records of the Australian museum*. 53: 293-340.

<sup>4</sup> IUCN 2003. *2003 IUCN Red List of Threatened Species*. < <http://www.redlist.org> >.

**Table 1: Summary table of the 2003 IUCN Red List status for Syngnathidae.**  
(DD = Data Deficient; VU = Vulnerable; EN = Endangered; CR = Critically Endangered)

	DD	VU	EN	CR
seahorses	23	9	1	
pipefishes	5			1
seadragons	2			
pipehorses		5		

**Table 2: 2002 IUCN Status for seahorses (*Hippocampus* spp.)**

Scientific Name	2001 IUCN Status	Date of Assessment
<i>H. abdominalis</i>	VU A2cd <sup>i</sup>	1996
<i>H. algericus</i>	DD	2001
<i>H. angustus</i>	DD	2001
<i>H. barbouri</i>	VU A4cd <sup>ii</sup>	2001
<i>H. bargibanti</i>	DD	2003
<i>H. borboniensis</i>	DD	2003
<i>H. breviceps</i>	DD	1996
<i>H. camelopardalis</i>	DD	2003
<i>H. capensis</i>	EN B1+2c+3d <sup>iii</sup>	1999
<i>H. comes</i>	VU A2cd <sup>iv</sup>	2001
<i>H. coronatus</i>	DD	2003
<i>H. denise</i>	DD	2003
<i>H. erectus</i>	VU A4cd	2003
<i>H. fisheri</i>	DD	2001
<i>H. fuscus</i>	DD	2003
<i>H. guttulatus</i>	DD	2003
<i>H. hippocampus</i>	DD	2003
<i>H. histrix</i>	DD	2001
<i>H. ingens</i>	VU A4cd	2003
<i>H. jayakari</i>	DD	2003
<i>H. kelloggi</i>	DD	2001
<i>H. kuda</i>	VU A4cd	2003
<i>H. lichtensteinii</i>	DD	2001
<i>H. minotaur</i>	DD	1996
<i>H. mohnikei</i>	VU A2cd	1996
<i>H. reidi</i>	DD	2003
<i>H. sindonis</i>	DD	2003
<i>H. spinosissimus</i>	VU A4cd	2003
<i>H. subelongatus</i>	DD	2001
<i>H. trimaculatus</i>	VU A4cd	2003
<i>H. whitei</i>	DD	2003
<i>H. zebra</i>	DD	2001
<i>H. zosterae</i>	DD	2003

<sup>i</sup> A population decline of at least 20% in 10 years or 3 generations projected or suspected in the future based on a decline in area of occupancy, extent of occurrence and/or quality of habitat AND actual or potential levels of exploitation.

<sup>ii</sup> An observed, estimated, inferred, projected or suspected population size reduction of  $\geq 30\%$  over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) a decline in area of occupancy, extent of occurrence and/or quality of habitat AND actual or potential levels of exploitation.

<sup>iii</sup> Extent of occurrence  $< 5000 \text{ km}^2$  or area of occupancy  $< 500 \text{ km}^2$  AND known to exist in  $\leq 5$  locations AND continuing decline in area, extent and/or quality of habitat AND fluctuating in the number of locations or subpopulations  $> 1$  order/mag.

<sup>iv</sup> An observed, estimated, inferred, or suspected population size reduction of  $\geq 30\%$  over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) a decline in area of occupancy, extent of occurrence and/or quality of habitat AND actual or potential levels of exploitation.

**Table 3: 2003 IUCN Status for pipefishes, pipehorses and seadragons**

Scientific Name	2002 IUCN Status	Date of Assessment
<i>Doryrhamphus dactyliophorus</i>	DD	1996
<i>Microphis caudocarinatus</i>	DD	1996
<i>Microphis spinachoides</i>	DD	1996
<i>Phycodorus eques</i>	DD	1996
<i>Phyllopteryx taeniolatus</i>	DD	1996
<i>Solegnathus dunckeri</i>	VU A1d+2d <sup>i</sup>	1996
<i>Solegnathus hardwickii</i>	VU A1d+2d	1996
<i>Solegnathus lettiensis</i>	VU A2d <sup>ii</sup>	1996
<i>Solegnathus robustus</i>	VU A2d	1996
<i>Solegnathus spinosissimus</i>	VU A1d+2d	1996
<i>Syngnathoides biaculeatus</i>	DD	1996
<i>Syngnathus abaster</i>	DD	1996
<i>Syngnathus watermeyer</i>	CR B1+2abd <sup>iii</sup>	1996

<sup>i</sup> A population decline of at least 20% in 10 years or 3 generations observed, estimated, inferred or suspected in the past AND projected or suspected in the future based on actual or potential levels of exploitation.

<sup>ii</sup> A population decline of at least 20% in 10 years or 3 generations projected or suspected in the future based on actual or potential levels of exploitation.

<sup>iii</sup> Extent of occurrence <100 km<sup>2</sup> or area of occupancy <10 km<sup>2</sup> AND known to exist in 1 location AND continuing decline in extent of occurrence AND area of occupancy AND number of locations or subpopulations.